

## HESPERIID BUTTERFLIES FROM SOUTH VIETNAM (5)

SADANOBU INOUÉ

30, Hamaguchi-Naka-Itchômé, Sumiyoshi-ku, Osaka

and

AKITO KAWAZOÉ

9, Ebisu-Honmachi-Nichômé, Naniwa-ku, Osaka

Those species described in the present issue are characterized by quadrantic labial palpi, strongly elongated apiculus of antennae with more than 15 segments on nudum, well marked lower median vein which reaches near base of vein 4 in the discoidal cell of the forewing, and vein 5 being vestigial and inconspicuous on hindwing. With a few exceptions there is a remarkable similarity in the male genitalia of these species: dorsum with a large dorsal membranous area at the middle; scaphium with a pair of unci having the distal portion liable to be bilobed, and with a pair of lateral processes produced from the connecting portion with tegumen; gnathos with a distinct cochlear; valvae with saccus small, ill-developed, posterior portion of harpe expanding dorsally and divided into two lamellate or angled processes with minute serrations; phallus generally stout, somewhat dilated distally, apex oblique, vesica opened posterodorsally without sharply defined cornutus, suprazonal sheath of aedeagus with dorsal membranous area longitudinally; juxta broad, lamellate.

The authors consider that these species may be akin to each other primarily on account of the common characters of their genitalia, but more materials are needed to define the relationship between those and the other species of the "*Plastingia* group" as EVANS put it.

55. *Lotongus calathus balta* EVANS, 1949 (Figs. 129-130 ♂; Textfig. 38, ♂ genitalia)

Specimens examined: 1 ♂, Trang Bom, 5-Nov.-1961; 1 ♂, Trang Bom, 7-Jan.-1963.

Upperside forewing with large white spots in spaces 1b, 2, 3 and in cell, additional minute subapical dots in spaces 6 to 7 or to 8; hindwing costal area narrowly white. Underside forewing with marking as in upperside, but mid costa white above the cell spot, spaces 1a to 1b broadly white except basal and terminal narrow areas; hindwing with apical area reaching vein 4.

Male genitalia: Scaphium strongly broadened, distal margin rounded, shallowly excavated at the middle, with a pair of short horns; a pair of lateral processes at the base of scaphium short and blunt. Valvae with harpal processes narrow and produced dorsally, anterior process somewhat longer than posterior one, a serrate edging at the inner base of the anterior process. Suprazonal sheath of aedeagus short, nearly half as long as subzonal one, with ventral protuberance at apex.

This species is distributed from Indo-China Peninsula (Burma, Vietnam and Thailand) to Java and Celebes, and is separated into 5 subspecies.

56. *Gangara thysis thysis* (FABRICIUS, 1775) (Fig. 131 ♂; Textfig. 39, ♂ genitalia)

Specimen examined: 1 ♂, Lai Thieu, 26-Jun.-1962.

This is the largest skipper in Southeast Asia with forewing generally 35 to 36 mm in length in the male, but in the specimen before the authors it is only 30 mm in length. Forewing narrow, costa strongly arched; very large yellowish spots in spaces 2, 3 and in cell, also large subapical three dots in spaces 6 to 8, those in spaces 7 and 8 are completely conjoined each other; hindwing broad, unmarked. On the forewing in the male, the medial portion of vein 1b, basal portion of vein 2, and cubitus vein from base of vein 2 to base of vein 3 are swollen, and, on the underside, there is a recumbent hair tuft along vein 1b. On the hindwing veins 2 and 3 are also basally swollen.

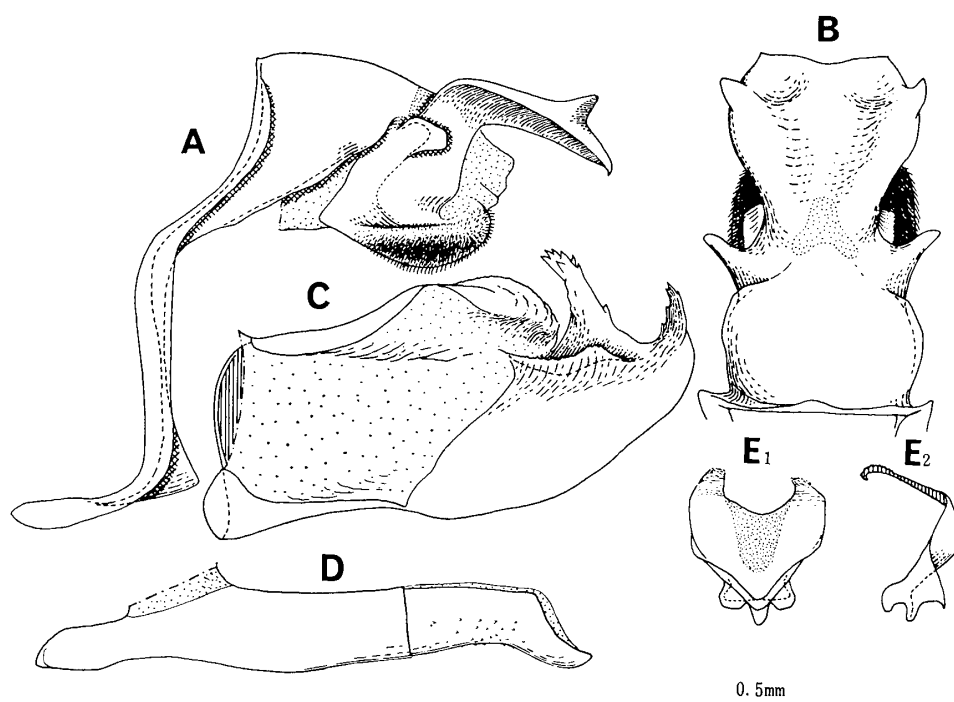


Fig. 38. Male genitalia of *Lotongus calathus balta* EVANS.

A: Lateral aspect of ring; B: Dorsal aspect of dorsum; C: Inner aspect of right-hand valva; D: Lateral aspect of phallus; E<sub>1</sub>: Posterior aspect of juxta; E<sub>2</sub>: Lateral aspect of juxta.

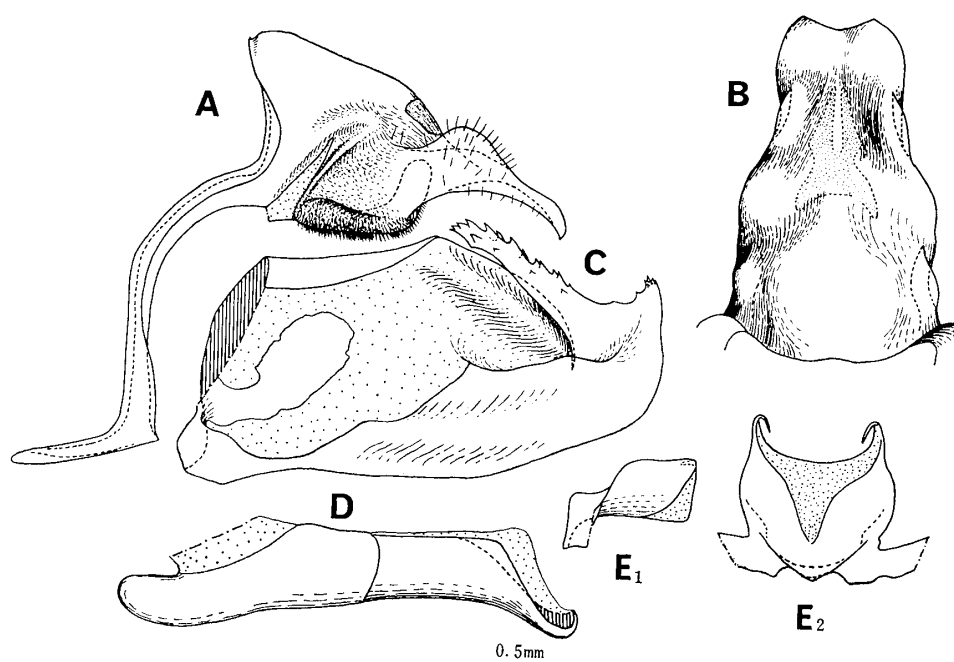


Fig. 39. Male genitalia of *Gangara thyrsis thyrsis* (FABRICIUS).

A: Lateral aspect of ring; B: Dorsal aspect of dorsum; C: Inner aspect of right-hand valva; D: Lateral aspect of phallus; E<sub>1</sub>: Lateral aspect of juxta; E<sub>2</sub>: Ventral aspect of juxta.

Male genitalia: Scaphium flattened, the anterior portion somewhat expanding dorsolaterally, distal margin shallowly concave medially. Valvae with harpal processes strongly produced, of which the anterior corner projects above along dorsal margin of ampulla.

This is a widely distributed species ranging from Ceylon and Northwestern India to Java, Celebes and the Philippines, and is divided into 4 subspecies.

57. *Erionota acroleuca apex* SEMPER, 1892 (Figs. 133-134 ♂; 132, 135-136 ♀; Textfigs. 40, ♂ genitalia; 41, ♀ genitalia)

Specimens examined: 1 ♂, Thu Duc, 30-Dec.-1959; 1 ♂, Saigon, 15-Jan.-1960; 1 ♂, Thu Duc, 2-Apr.-1960; 1 ♀, Thu Duc, 10-Apr.-1960; 1 ♂, Trang Bom, 25-Dec.-1960; 1 ♂, Thu Duc, 26-Feb.-1961; 1 ♂, Ben Nom, 26-Feb.-1961; 2 ♂♂, Thu Duc, 11-Feb.-1962; 1 ♂ 3 ♀♀, Thu Duc, 11-Mar.-1962; 1 ♀, Lai Thieu, 18-Mar.-1962; 1 ♀, Thu Duc, 8-May-1962; 1 ♂, Thu Duc, 13-May-1962; 1 ♂ 1 ♀, Thu Duc, 9-Sep.-1962.

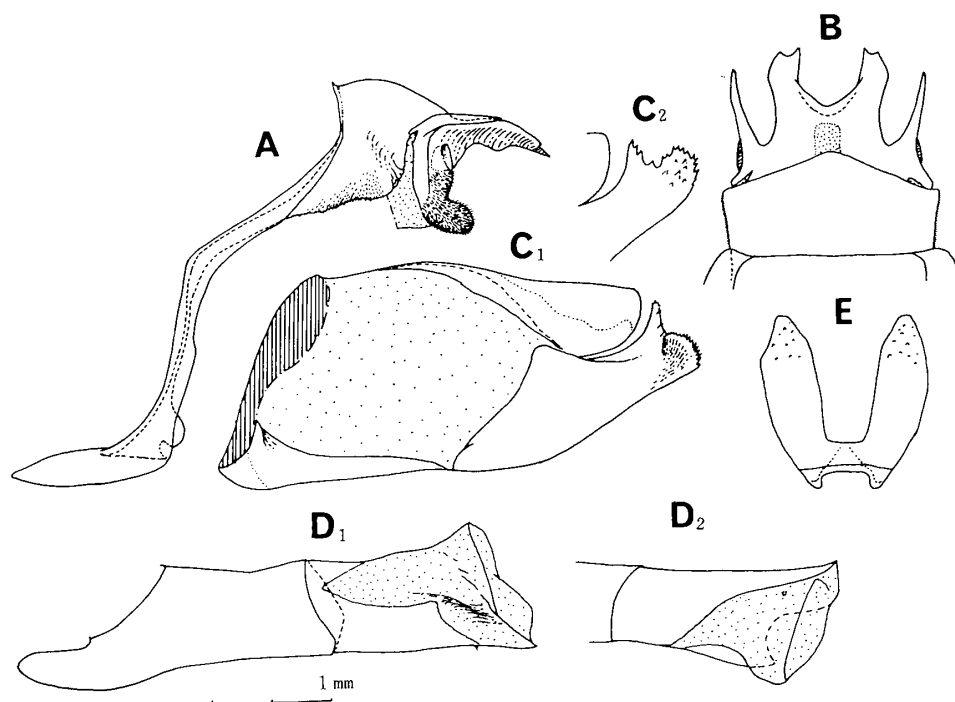


Fig. 40. Male genitalia of *Erionota acroleuca apex* SEMPER.

A: Lateral aspect of ring; B: Dorsal aspect of dorsum; C<sub>1</sub>: Inner aspect of right-hand valva; C<sub>2</sub>: Apical portion of harpe of right-hand valva; D<sub>1</sub>: Lateral aspect of phallus; D<sub>2</sub>: Dorsal aspect of suprazonal sheath of aedeagus; E: Juxta.

Among the three species of the genus *Erionota* captured in South Vietnam, the present species is the smallest in size, and, on forewing, apical area above vein 5 is sharply whitened in the male. In one female specimen forewing has three small apical hyaline dots in spaces 6 to 8 (Fig. 132).

Male genitalia: Scaphium rather small, with a pair of unci weakly bifurcate at the end, and with a pair of lateral processes producing not beyond the uncinal extremity. Valvae two times as long as its height, with harpal apex weakly bilobed and furnished with minute serrations. Phallus stout, apex oblique, suprazonal sheath of aedeagus broadly membranous dorsolaterally at its left side. Juxta U-shaped, dorsal expansions broad with apical portion minutely serrate.

Female genitalia: Lamella postvaginalis posteriorly trifold; lamella antevaginalis with a pair of dilated lateral lobes which cover the lateral portion of lamella postvaginalis in ventral aspect; bursa copulatrix with signa represented by two pair of long, rasped bands.

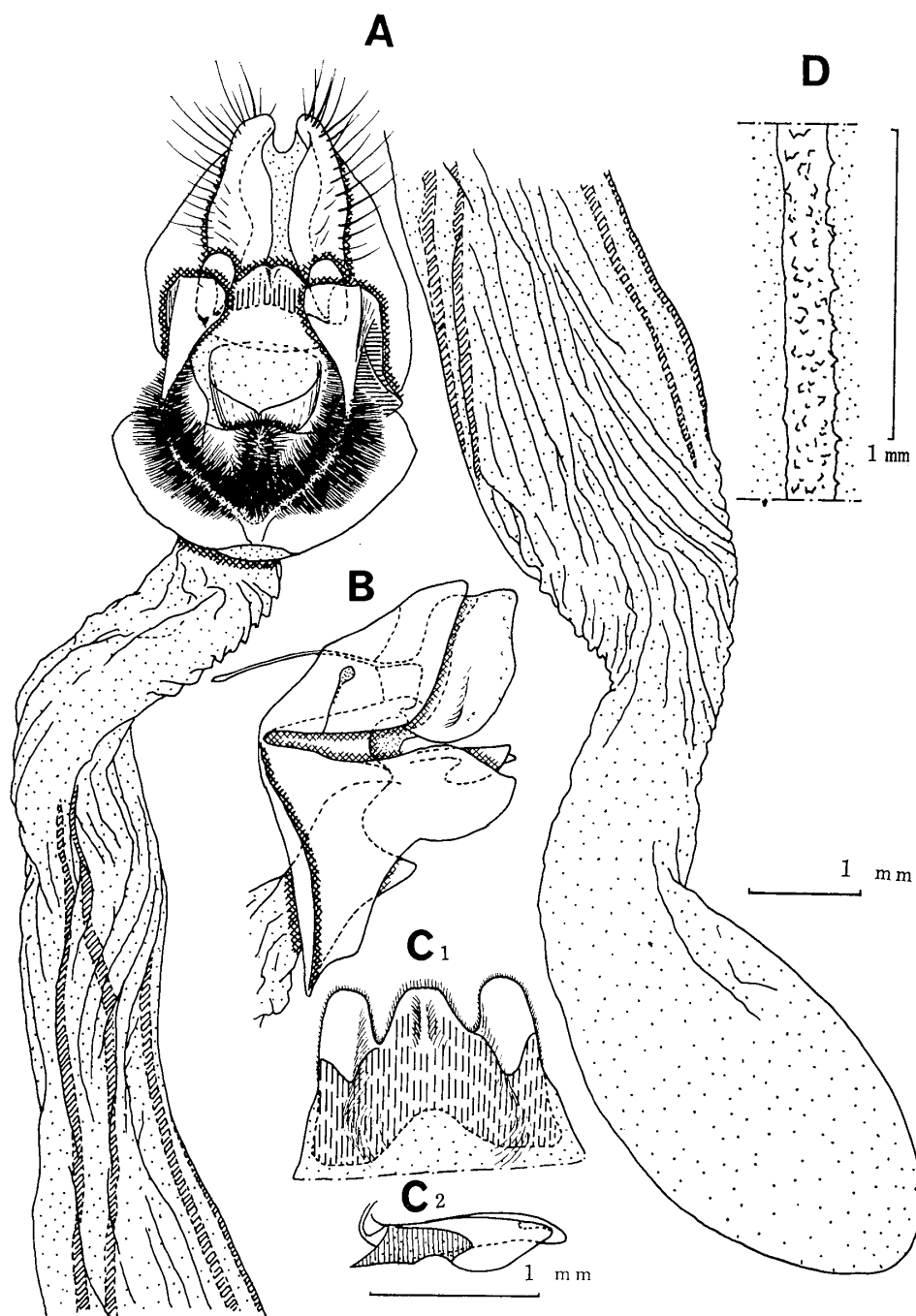


Fig. 41. Female genitalia of *Erionota acroleuca apex* SEMPER.

A: Ventral aspect as a whole; B: Lateral aspect of complicated skeleton circumfused ostium; C<sub>1</sub>: Ventral aspect of lamella postvaginalis; C<sub>2</sub>: Lateral aspect of lamella postvaginalis; D: Middle portion of signum.

This species is distributed from the Andamans and Nicobars to the Philippines and Celebes, and is separated into three subspecies.

58. *Erionota thrax thrax* (LINNAEUS, 1767) (Figs. 137-138 ♂; 139-140 ♀; Textfigs. 42, ♂ genitalia; 43, ♀ genitalia)

Specimens examined: 1 ♂, Thu Duc, 30-Dec.-1959; 1 ♂ 1 ♀, Thu Duc, 1-Nov.-1960; 1 ♀, Thu

Duc, 11-Dec.-1960; 2 ♀♀, Thu Duc, 15-May-1961; 1 ♂, Thu Duc, 11-Feb.-1962; 1 ♀, Thu Duc, 11-Mar.-1962; 1 ♀, Lai Thieu, 22-Jul.-1962; 1 ♂ 1 ♀, Thu Duc, 9-Sep.-1962.

Male forewing outer margin nearly straight, apex acutely pointed; upperside forewing apex vaguely whitened. In comparison with *E. acroleuca* yellow spot in space 3 of forewing is narrower and triangular (in the Philippine specimens examined for the purpose of the comparative study, this spot is entirely circular), and a blurred pale discal band on underside hindwing is broad with its outer margin not so strongly produced outwards at vein 6, while in *E. acroleuca* the spot in space 3 of forewing is generally trapeziform, and, on the underside hindwing, the pale band angled outwardly at the lower one-third portion.

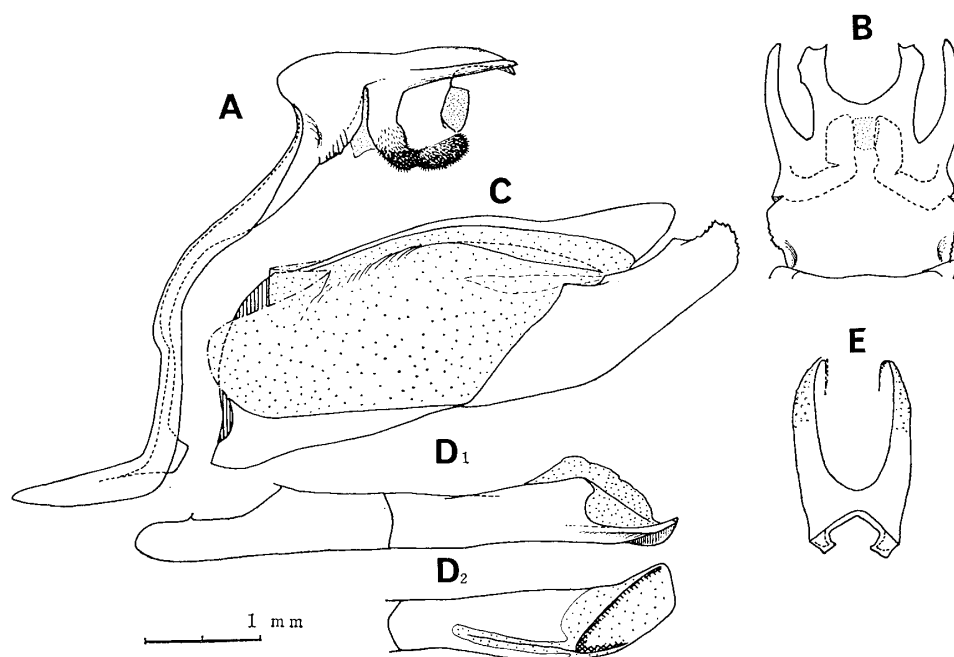


Fig. 42. Male genitalia of *Erionota thrax thrax* (LINNAEUS).

A: Lateral aspect of ring; B: Dorsal aspect of dorsum; C: Inner aspect of right-hand valva; D<sub>1</sub>: Lateral aspect of phallus; D<sub>2</sub>: Dorsal aspect of suprazonal sheath of aedeagus; E: Juxta.

Male genitalia: Closely resembling those of *E. acroleuca*; Scaphium with unci more divergent at the apices, lateral processes longer, apex reaching the uncinal extremity. Valvae three times as long as its height, basal process of harpe inconspicuous, triangular, apical process blunt with minute serrations. Phallus long and slender, apex oblique with a ventral keel. Juxta U-shaped, dorsal processes narrow.

Female genitalia: General structure as in *E. acroleuca*; lamella postvaginalis posteriorly lobated, posterior margin of each lobe roundly concave, outer margin strongly keeled ventrally; lamella antevaginalis with a pair of broadly expanding processes which cover nearly entire lamella postvaginalis laterally and ventrally.

This species occurs from Eastern India to the Philippines, Celebes and the Northern Moluccas, and is divided into 3 subspecies.

59. ***Erionota torus*** EVANS, 1941 (Figs. 141-142 ♂, 143-144 ♀; Textfigs. 44, ♂ genitalia; 45, ♀ genitalia)

Specimens examined: 1 ♂, Thu Duc, 30-Dec.-1959; 1 ♂, Thu Duc, 1-Nov.-1960; 1 ♀, Trang Bom, 4-Feb.-1962; 1 ♂, Lai Thieu, 11-Feb.-1962; 1 ♀, Lai Thieu, 11-Feb.-1962; 1 ♂, Thu Duc, 11-Feb.-1962.

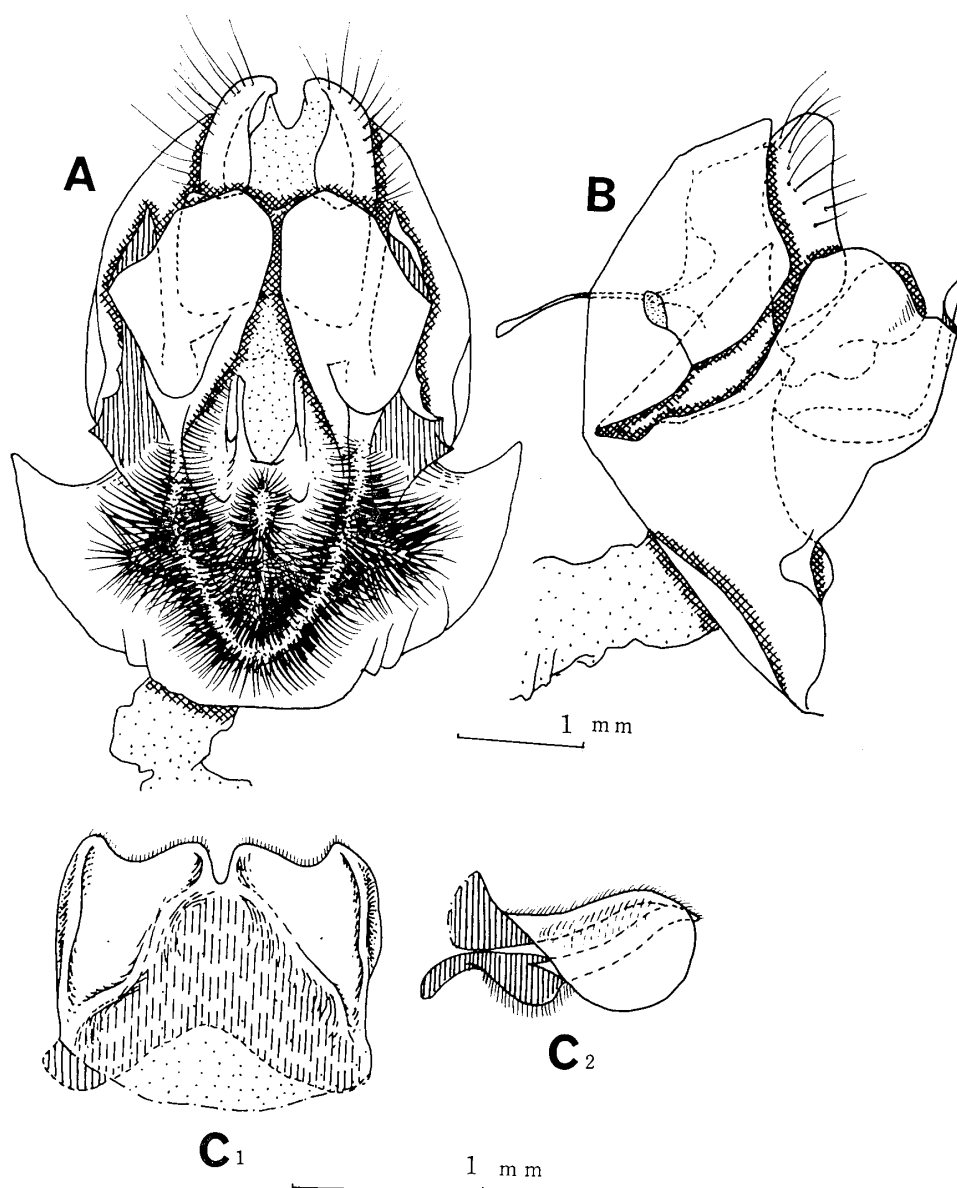


Fig. 43. Female genitalia of *Erionota thrax thrax* (LINNAEUS).

A: Complicated skeleton circumfusing ostium, ventral aspect; B: Ditto, lateral aspect; C<sub>1</sub>: Ventral aspect of lamella postvaginalis; C<sub>2</sub>: Lateral aspect of lamella postvaginalis.

Forewing outer margin rounded as in *E. acroleuca*, but obviously larger in size and, in the male, apex not whitened above and below. Hindwing somewhat broader and the outer margin more evenly rounded than in the aforementioned two species of the same genus. Body stouter. Antennae with the shaft conspicuously whitish below throughout, while in *E. thrax* the shaft pale brown there.

Male genitalia: Uncus short and broad, apex ventrally curved, distal margin not bifurcate; lateral process of scaphium gently bent up apically; scaphium with an additional pair of blunt dorsal processes from each base of the lateral processes; gnathos with a pair of cochlear ill-developed. Valvae with basal process of harpe inconspicuously projected and roughly serrate, apical process of harpe acutely producing upwards and furnished with minute serrations. Phallus very stout, suprazonal sheath of aedeagus apically enlarged, vesical opening oblique with some minute serrations. Juxta large and very broad.

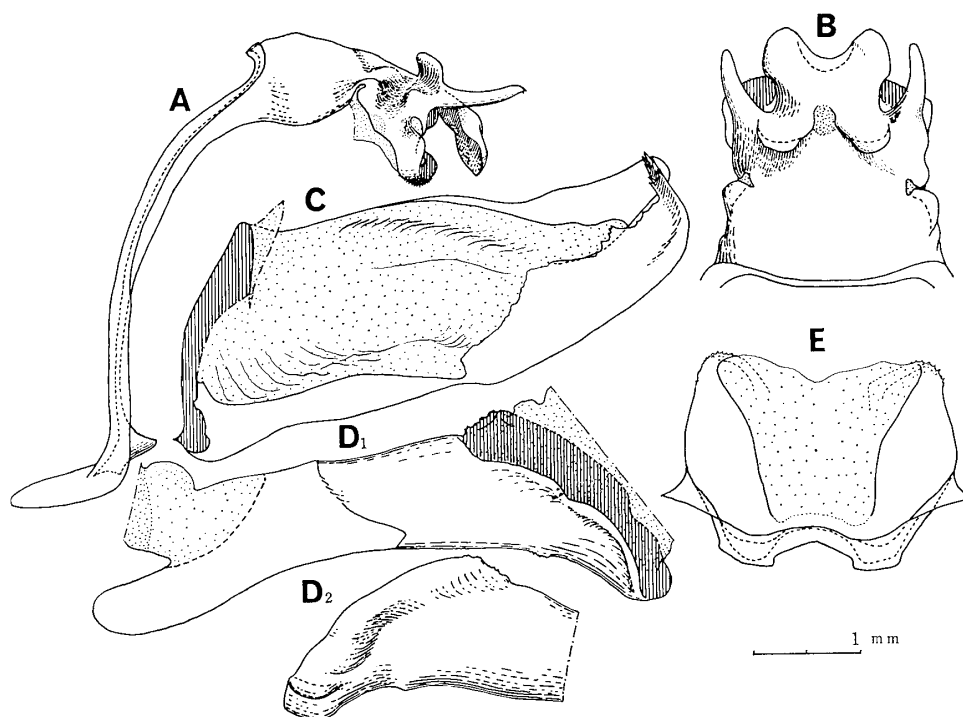


Fig. 44. Male genitalia of *Erionota torus* EVANS.

A: Ventral aspect of ring; B: Dorsal aspect of dorsum; C: Inner aspect of right-hand valva; D<sub>1</sub>: Lateral aspect of phallus; D<sub>2</sub>: Lateral aspect on the right of suprazonal sheath of aedeagus; E: Juxta.

Female genitalia: Lamella postvaginalis incised midway with a pair of finger-like processes; lamella antevaginalis semi-circular, without any expansion posteriorly, and lamella postvaginalis fully exposed in ventral view.

The range of this species is restricted to the continental region of Southeast Asia.

60. **Matapa aria** (MOORE, 1866) (Fig. 145, ♂)

Specimens examined: 1 ♀, Trang Bom, 15-Jan.-1961; 1 ♂, Paksong (Laos), 31-May-1961; 1 ♂, Trang Bom, 11-Mar.-1962; 1 ♂, Trang Bom, 8-Apr.-1962; 1 ♂, Trang Bom, 13-May-1962; 1 ♀, Trang Bom, 20-May-1962; 1 ♀, Lai Thieu, 26-Jun.-1962.

The male genitalia of this species are fully described by SHIRÔZU and SAIGUSA (1962) under the incorrectly identified name "*Matapa druna* (MOORE)," based on the material of Thailand. The difference between *M. aria* (MOORE) and *M. druna* (MOORE) is treated by KAWAZOË (1964) in his report on the butterflies collected by the Thai-Japanese Biological Expedition.

This species appears to be the commonest skipper among the *Matapa* species having the red eyes and the yellow hindwing cilia.

61. **Matapa sasivarna** (MOORE, 1865) (Fig. 146 ♀)

Specimen examined: 1 ♀, Trang Bom, 4-Feb.-1962.

Eyes red. ♀ upperside brown; palpi, head, collar, patagia, thorax and abdomen with green gloss, as well as the basal area of both wings having metallic green sheen. Underside greenish dusky brown with faint metallic sheen, veins and outer margin narrowly black, thorax and coxa of each leg bearing metallic green hair. Cilia on hindwing from tornus to vein 5, and the anal portion of abdomen, above and below, are bright orange.

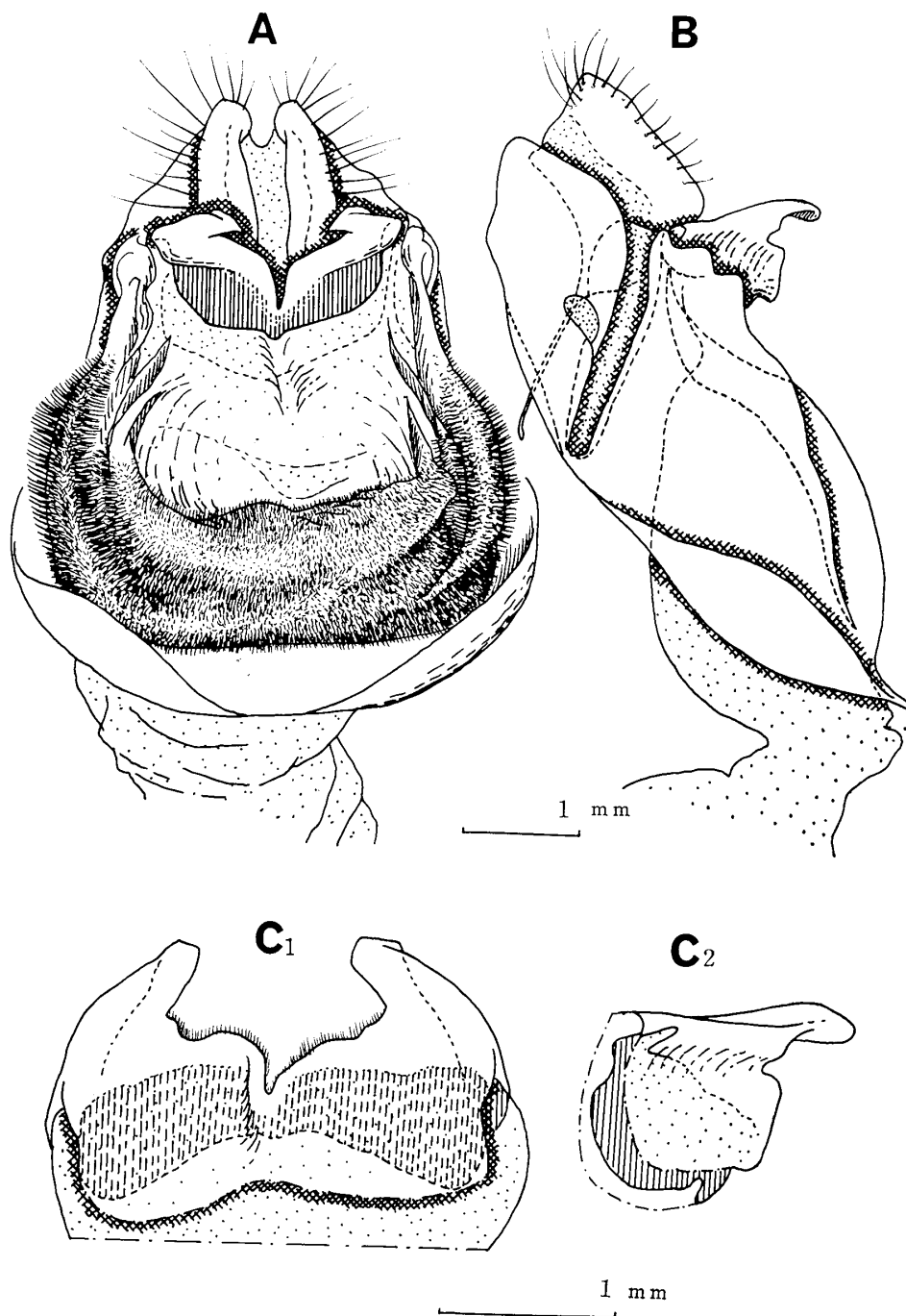


Fig. 45. Female genitalia of *Erionota torus* EVANS.

A: Complicated skeleton circumfusing ostium, ventral aspect; B: Ditto, lateral aspect; C<sub>1</sub>: Ventral aspect of lamella postvaginalis; C<sub>2</sub>: Lateral aspect of lamella postvaginalis.

This species occurs in Sikkim, Assam, Burma, Hainan, Indo-China to Malaya and Sumatra.

62. **Unkana ambasa batara** DISTANT, 1886 (Figs. 147-148 ♂; Textfig. 46, ♂ genitalia)

Specimens examined: 1 ♂, Thu Duc, 30-Dec.-1959; 1 ♂, Thu Duc, 26-Feb.-1961; 1 ♂, Thu Duc, 18-Nov.-1962.

The specimens examined have the underside hindwing with veins not so broadly dark, and are



hardly distinguishable from the Malayan subspecies *batara* DISTANT.

Upperside black-brown with white hyaline discal, cell and subapical spots. Underside hindwing central area broadly white with a pale purple tinge.

Male genitalia: General appearance like those of *Lotongus calathus* (HEWITSON). Scaphium elongated, the base laterally ridged; distal portion narrowly incised at the middle, forming a pair of quadrant-shaped unci with the outer margin rounded; a pair of horn-like short processes diverging dorsally from the base of each uncus. Harpe of valvae large, anterior process prolonged, well beyond dorsal margin of ampulla, posterior process blunt, shorter than the anterior one, and the third, semicircular process producing from inner face of harpe. Phallus moderate, apical opening strongly broadened. Juxta U-shaped, with dorsal processes tapered to serrated apex which ends in a sharp point.

Distributed from Burma, Thailand to Java, Borneo, Palawan, Nias and Mindanao, but absent from Luzon and Celebes, and divided into 5 subspecies.

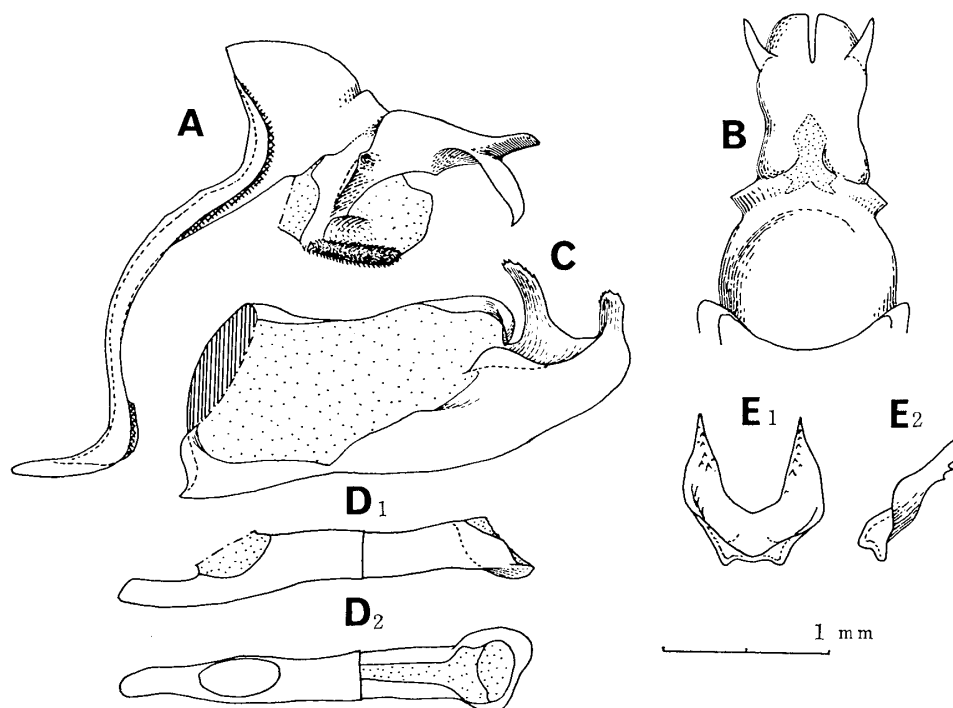


Fig. 46. Male genitalia of *Unkana ambasa batara* DISTANT.

A: Lateral aspect of ring; B: Dorsal aspect of dorsum; C: Inner aspect of right-hand valva; D<sub>1</sub>: Lateral aspect of phallus; D<sub>2</sub>: Dorsal aspect of phallus; E<sub>1</sub>: Ventral aspect of juxta; E<sub>2</sub>: Lateral aspect of juxta.

63. **Hidari bhawani** DE NICÉVILLE, 1888 (Figs. 149-150 ♂; Textfig. 47, ♂ genitalia)

Specimen examined: 1 ♂, Trang Bom, 2-July-1961.

Antennae with apical half of club above and below conspicuously white. Head dark brown on the dorsal middle, apparently whitish along upper margin of the complex eyes. Upperside brown; forewing with white hyaline spots in spaces 2, 3, 6 and in cell, and with a pale yellow opaque dot in space 1b; hindwing costal area above vein 8 markedly paler. Underside: forewing discal area dark brown, costal area in spaces 11 and 12 grey brown, similar coloured spaces 4 and 5 forming a pale streak under apex, apical area more or less paler and flecked with faint dark striae. Hindwing grey brown, sprinkled with many dark dots and striae, a purple brown streak obliquely running from base above vein 8 to termen in space 6, dorsal area in spaces 1a to 1b dark brown; discal dots,

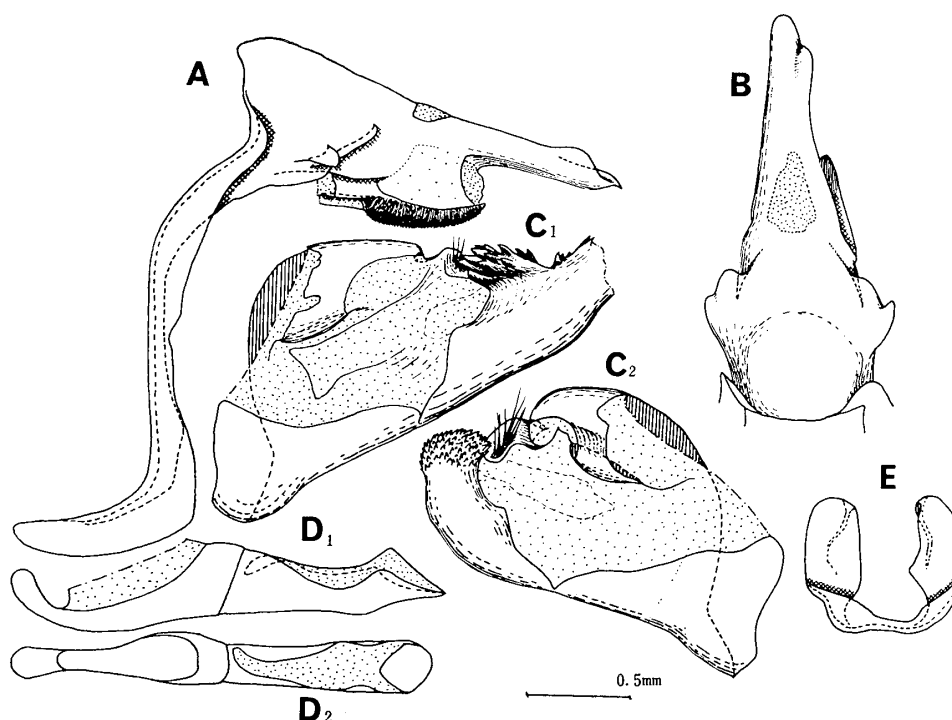


Fig. 47. Male genitalia of *Hidari bhawani* DE NICÉVILLE.

A: Lateral aspect of ring; B: Dorsal aspect of dorsum; C<sub>1</sub>: Inner aspect of right-hand valva; C<sub>2</sub>: Inner aspect of left-hand valva; D<sub>1</sub>: Lateral aspect of phallus; D<sub>2</sub>: Dorsal aspect of phallus; E: Juxta.

in spaces 6 and 7, being white with dark thready margin.

Male genitalia: General appearance peculiar, asymmetric in structure. Scaphium elongated, uncus fused with each other, the right-hand uncal process somewhat longer than the left-hand one; tegumen with shortly bifurcated lateral expansion. Valvae: costa and sacculus well developed, each with broadly expanding lamellate process (this structure is exceptional in the *Plastingia* group of *Hesperiinae*); ampulla small, with some bristles; right-hand valva\* with basal portion of harpe bearing strong serrations; left-hand valva with harpe short and blunt, dorsally furnished with dense minute serrations. Phallus rather small, and its shape as is usually seen in the group. Juxta U-shaped.

This species is said to be very rare, and only a few specimens are hitherto found from Assam, Burma and Lankawi Islands.

\*The apical portion of harpe of the right-hand valva is broken to pieces in the examined genitalia.

64. *Pirdana hyela rudolphii* ELWES & NICÉVILLE, 1887 (Figs. 151-152 ♀; Textfig. 48, ♂ genitalia)

Specimens examined: 1 ♀, Trang Bom, 14-Aug.-1960; 1 ♂, Trang Bom, 14-Jun.-1962; 1 ♀, Banmethuot, 21-Sep.-1962.

Resembling the *Matapa* species in general appearance, but the eyes are black, instead of red.

Upperside brown with tornally broad, bright orange cilia on hindwing; discal area on both wings broadly greenish blue with metallic gloss in the female, but slightly so in the male. Underside blue black with shining green-blue along each vein; forewing costa green, tornus whitish brown; hindwing inner area blue black. In the male on forewing an obscure bipartite stigma at base of vein 2 and the middle portion of vein 1b.

Male genitalia: Scaphium short with blunt uncus, but with no conspicuous lateral process. Gnathal arm with broad basal portion; cochlear ill-developed. Vinculum with long, slender saccus. Valvae

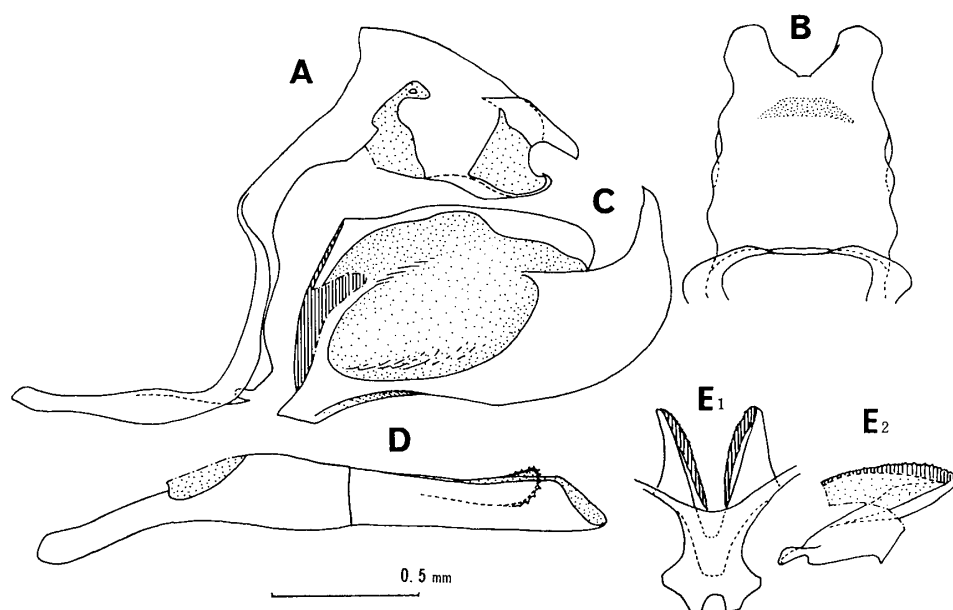


Fig. 48. Male genitalia of *Pirdana hyela rudolphii* ELWES & NICÉVILLE.

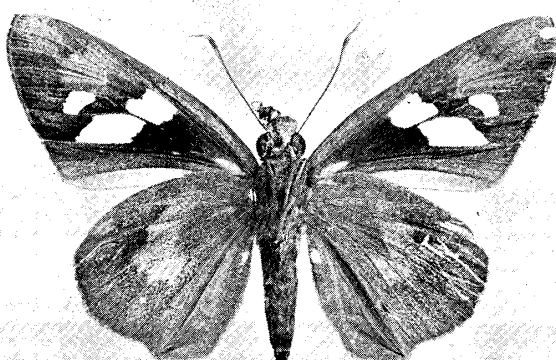
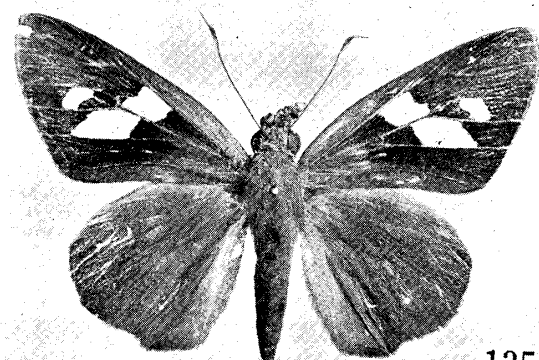
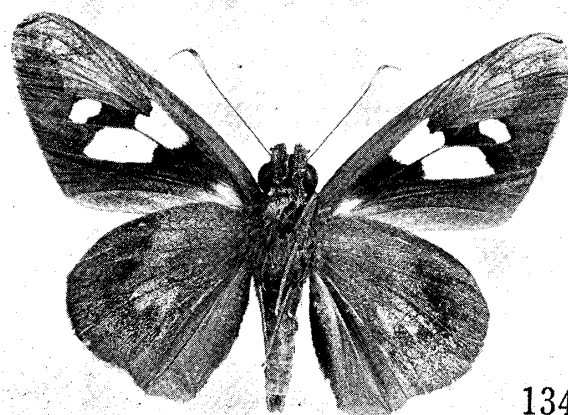
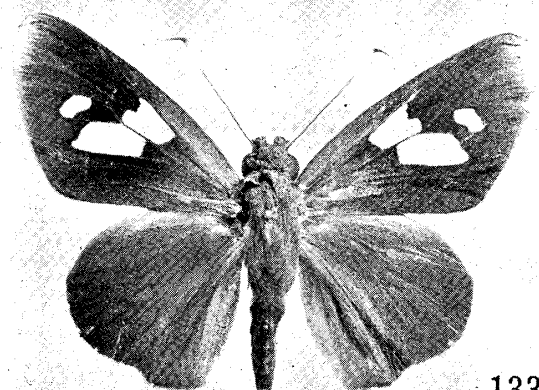
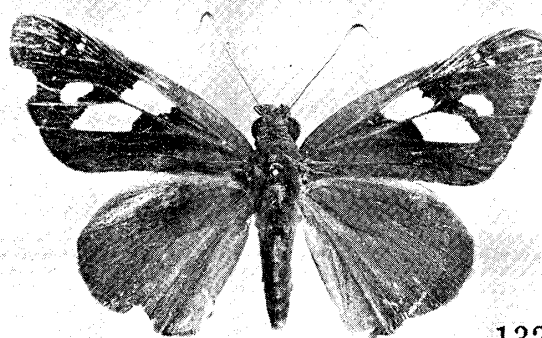
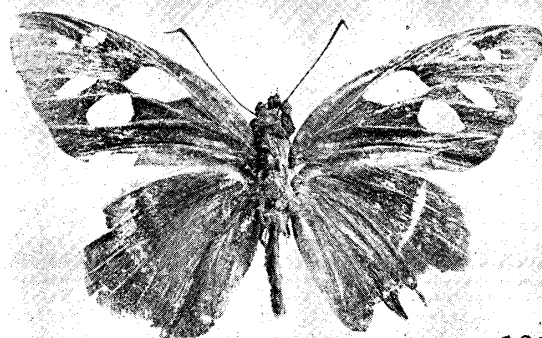
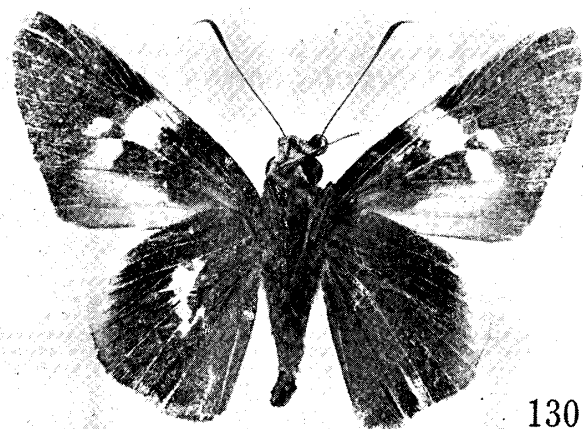
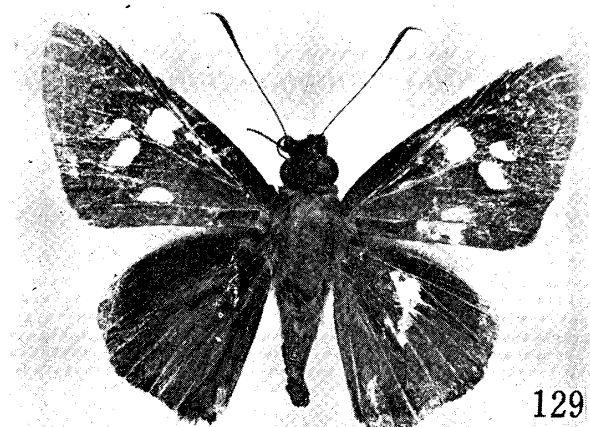
A: Lateral aspect of ring; B: Dorsal aspect of dorsum; C: Inner aspect of right-hand valva; D: Lateral aspect of phallus; E<sub>1</sub>: Ventral aspect of juxta; E<sub>2</sub>: Lateral aspect of juxta.

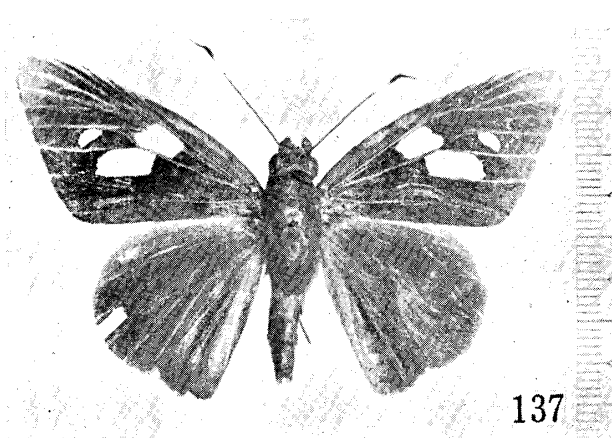
with harpe dorsally long produced beyond ampulla at apex, its distal end sharply pointed. Phallus slender, vesica with barbed cornutus. Juxta V-shaped, basal portion with strong apodemal process, subbasal portion fused with sacculus of valvae; dorsal processes with apical reflexed portion minutely serrate.

This species is widely distributed from Sikkim, Assam, Burma to the Philippines, Celebes and Java, and is divided into 4 subspecies.

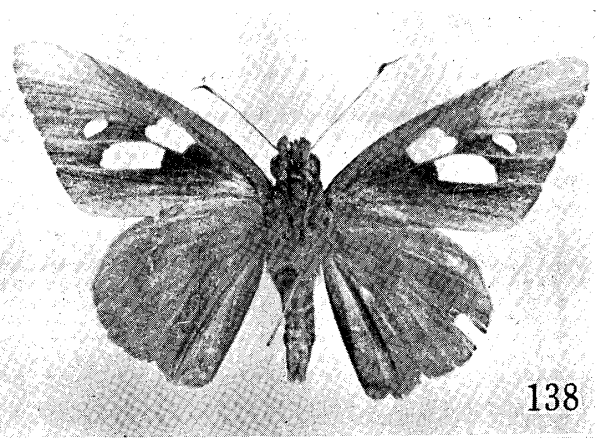
#### Explanation of Plates

- |  |                             |
|--|-----------------------------|
| Fig. 129. <i>Lotongus calathus balta</i> EVANS, ♂.                                     | Fig. 130. ditto, underside. |
| Fig. 131. <i>Gangara thyrsis thyrsis</i> (FABRICIUS), ♂.                               |                             |
| Fig. 132. <i>Erionota acroleuca apex</i> SEMPER, ♀ (an individual with 3 apical dots). |                             |
| Fig. 133. <i>Erionota acroleuca apex</i> SEMPER, ♂.                                    | Fig. 134. ditto, underside. |
| Fig. 135. <i>Erionota acroleuca apex</i> SEMPER, ♀.                                    | Fig. 136. ditto, underside. |
| Fig. 137. <i>Erionota thrax thrax</i> (LINNAEUS), ♂.                                   | Fig. 138. ditto, underside. |
| Fig. 139. <i>Erionota thrax thrax</i> (LINNAEUS), ♀.                                   | Fig. 140. ditto, underside. |
| Fig. 141. <i>Erionota torus</i> EVANS, ♂.  | Fig. 142. ditto, underside. |
| Fig. 143. <i>Erionota torus</i> EVANS, ♀.  | Fig. 144. ditto, underside. |
| Fig. 145. <i>Matapa aria</i> (MOORE), ♂.   |                             |
| Fig. 146. <i>Matapa sasivarna</i> (MOORE), ♀, underside.                               |                             |
| Fig. 147. <i>Unkana ambasa batara</i> DISTANT, ♂.                                      | Fig. 148. ditto, underside. |
| Fig. 149. <i>Hidari bhawani</i> DE NICÉVILLE, ♂.                                       | Fig. 150. ditto, underside. |
| Fig. 151. <i>Pirdana hyela rudolphii</i> ELWES & NICÉVILLE, ♀.                         | Fig. 152. ditto, underside. |

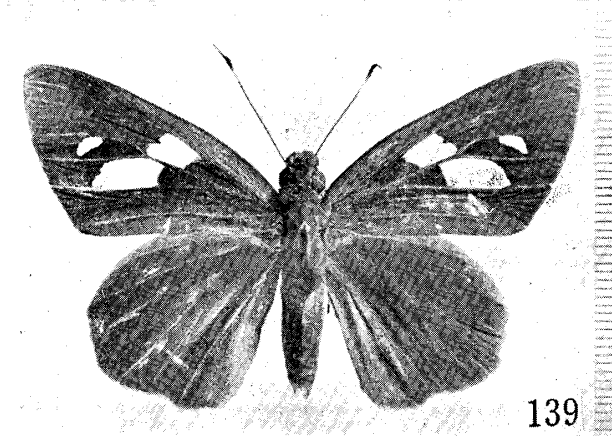




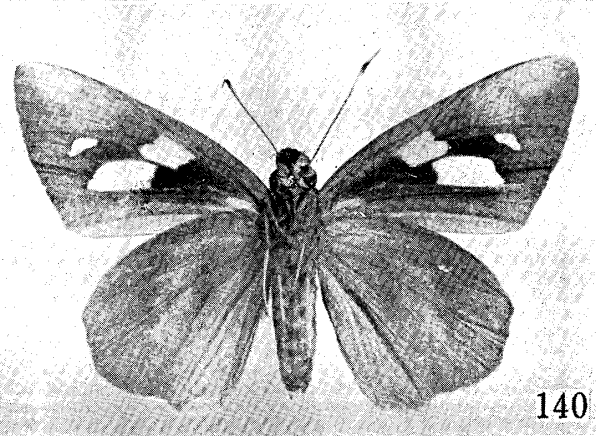
137



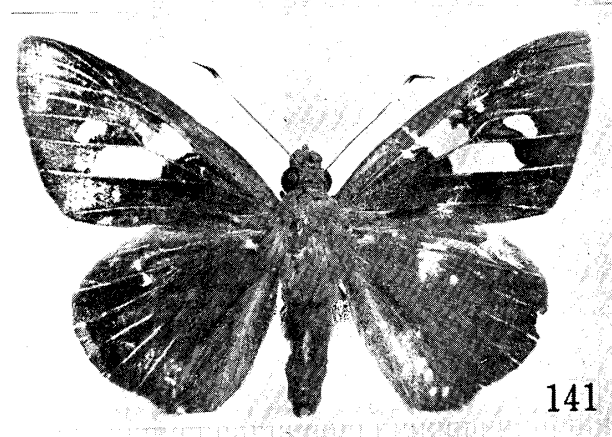
138



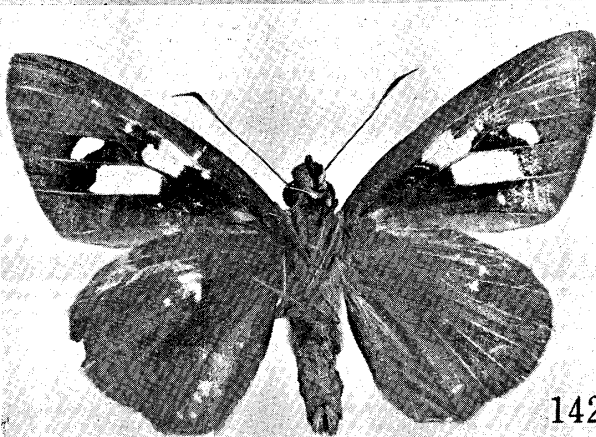
139



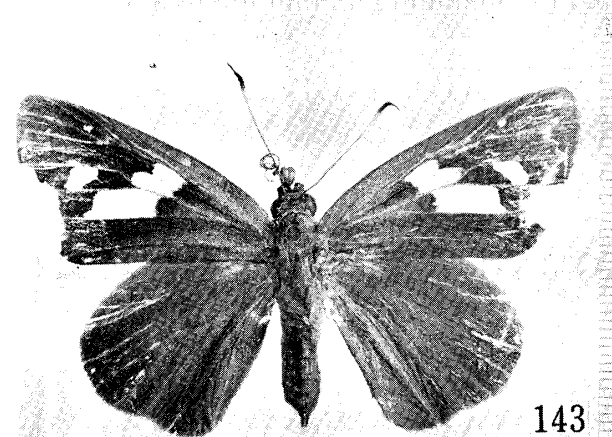
140



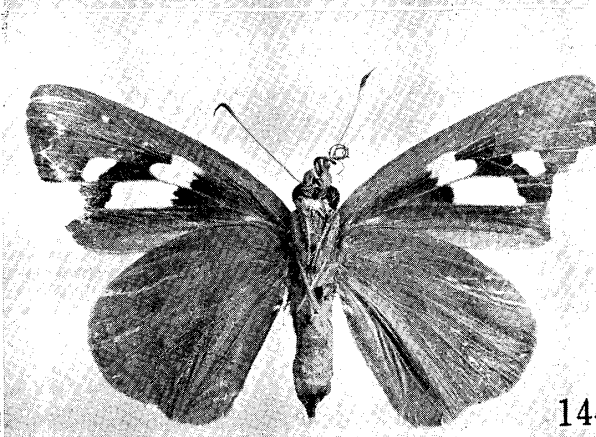
141



142

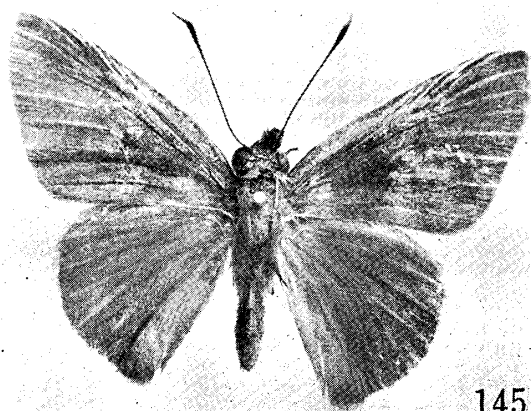


143

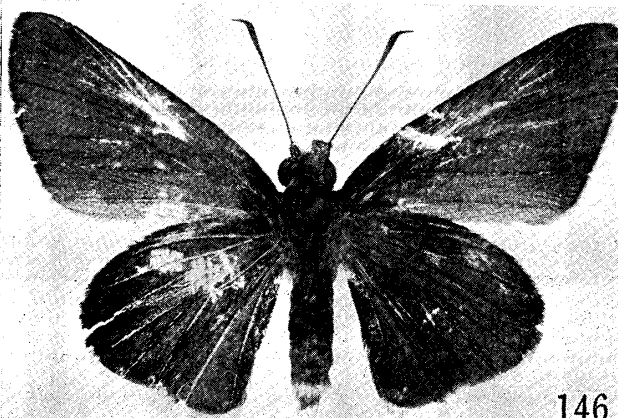


144

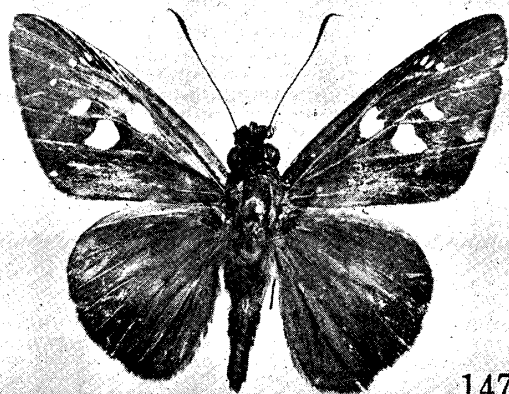




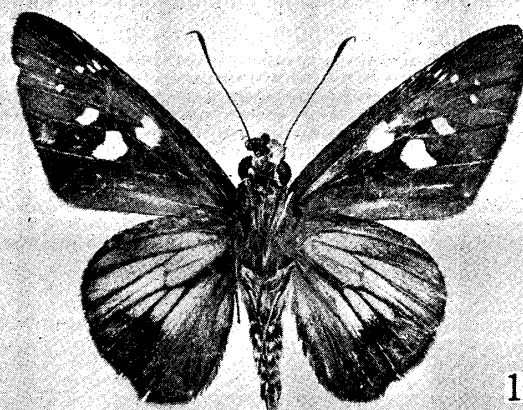
145



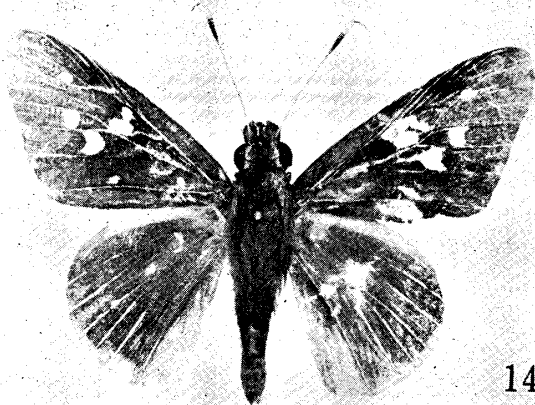
146



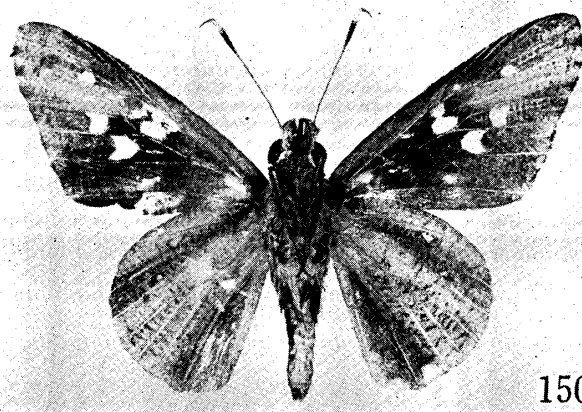
147



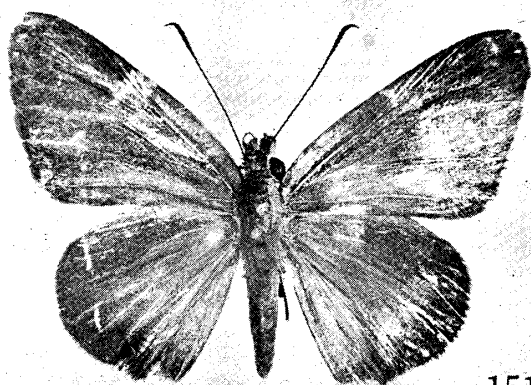
148



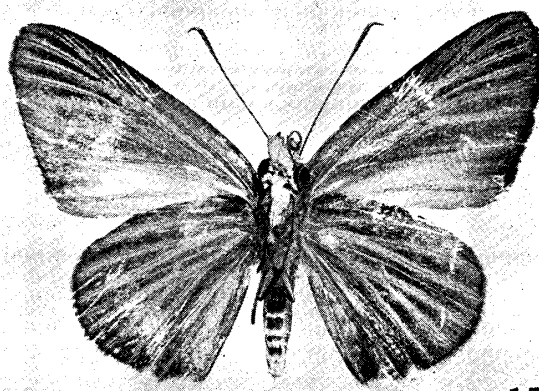
149



150



151



152